

MARCHING BAND ASSISTANT

Team 6

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Requirement Summary

Subsystem Name	High Level Requirement	Points
IMU	<ul style="list-style-type: none">• IMU must be able to send acceleration data to MCU	5
Control Unit	<ul style="list-style-type: none">• MCU must be able to accurately calculate tempos of between 80-160 BPM using IMU data• MCU must be able to transfer data to the Bluetooth module via TX/RX pins• LED indicates when the device is on or off	20
Communication	<ul style="list-style-type: none">• Bluetooth module is able to transmit MCU data to host computer	5
User Display	<ul style="list-style-type: none">• User display should be able to display data from Bluetooth module on a GUI• User display must be able to update at least twice each second given new data	10
Power Supply	<ul style="list-style-type: none">• Lifetime per charge should be at least 4 hours• Power supply must be able to supply voltage to power the MCU, IMU, and Bluetooth module	10
	Total	50